

IL-18R alpha Protein, Rhesus macaque (HEK293, His)

Cat. No.:	HY-P77407
Synonyms:	Interleukin-18 receptor 1; IL-18R1; CDw218a; IL1RRP; IL-18R-alpha; CD218a
Species:	Rhesus Macaque
Source:	HEK293
Accession:	F7H8F9 (C22-K315)
Gene ID:	/
Molecular Weight:	Approximately 55 kDa due to the glycosylation

PROPERTIES

AA Sequence	<div> CTSRPHITVV SQERVELNPR NYTQKWKLNV NSYYQTLVNS YSCVHFLHHN NHVAVELGKD EEKEIRIMTS TGGTDTKSF I </div> <div> EGEPFYLYKYC SSSRIALHGC IRRNKHRCFT TSLYKNCKKL GKLFNITKTF VRLNCSALLN EGKWHASKVL LVRK </div> <div> SCSPAHEIET VLEFWPVELN ERQVTSKTVE LENNKNPTIK NITIVEDHSN EEDVVYWMFG RIENIGENNL </div> <div> ITKSWYKSSG DTGSYSFQME VKKFLQITCE KNAELEDQGY IVPVL L GPKL EENGSDPNIH NVLYNCTVAS </div>
Biological Activity	Measured by its binding ability in a functional ELISA. When Recombinant Rhesus macaque IL-18R alpha Protein is immobilized at 2 µg/mL (100 µL/well) can bind Biotinylated Recombinant Mouse IL-18 Protein. The ED ₅₀ for this effect is 0.9366 µg/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

IL-18R alpha is expressed on CD4⁺ and CD8⁺ T cells but not expressed on naive T cells^[4].

The amino acid sequence of human IL-18R alpha protein has low homology for mouse IL-18R alpha protein.

IL-18R alpha is the receptor of IL-18. IL-18 is extracellularly secreted and binds IL-18 receptor α (R α) as well as IL-18 receptor β (R β) at the immunocyte plasma membrane in a stepwise manner. IL-18/IL-18R α /IL-18R β ternary complex formation juxtaposes the intracellular Toll-Interleukin-1 receptor domains of IL-18R α and IL-18R β . Then, the adaptor molecule myeloid differentiation factor 88 (MyD88) is recruited presumably with the aid of TRAM. MyD88 further interacts with IL-1 receptor associating kinase (IRAK) 4 and IRAK1/2 to form the large molecular assembly referred to as Myddosome, which subsequently activates IKK via TRAF6. Finally, the signal activates the NF- κ B and mitogen-activated protein kinase pathways⁷, which upregulate the expression of various inflammatory cytokines^[1].

IL-18R alpha binds to IL-18 and IL-18 receptor β forms a signalling complex induces the expression of various inflammatory cytokines^[1]. IL-18R alpha inhibits the production of IFN- γ stimulated with the combination of rhIL-2 and rhIL-18^[3].

REFERENCES

[1]. Tsutsumi N, et al. The structural basis for receptor recognition of human interleukin-18. Nat Commun. 2014 Dec 15;5:5340.

[2]. Watanabe M, et al. Predominant expression of 950delCAG of IL-18R alpha chain cDNA is associated with reduced IFN-gamma production and high serum IgE levels in atopic Japanese children. J Allergy Clin Immunol. 2002 Apr;109(4):669-75.

[3]. Takei S, et al. Soluble interleukin-18 receptor complex is a novel biomarker in rheumatoid arthritis. Arthritis Res Ther. 2011 Mar 24;13(2):R52.

[4]. Smeltz RB, et al. Regulation of interleukin (IL)-18 receptor alpha chain expression on CD4(+) T cells during T helper (Th)1/Th2 differentiation. Critical downregulatory role of IL-4. J Exp Med. 2001 Jul 16;194(2):143-53.

Caution: Product has not been fully validated for medical applications. For research use only.

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